IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION

INTELLECTUAL VENTURES II LLC, Plaintiff, v. T-MOBILE USA, INC., T-MOBILE US, INC., ERICSSON INC., and TELEFONAKTIEBOLAGET LM ERICSSON Defendants.	§ § § § § § § § § § §	CIVIL ACTION NO. 2:17-cv-00661-JRG **JURY TRIAL DEMANDED**
INTELLECTUAL VENTURES II LLC, Plaintiff, v. SPRINT SPECTRUM L.P., NEXTEL OPERATIONS, INC., ERICSSON INC., TELEFONAKTIEBOLAGET LM ERICSSON, and ALCATEL-LUCENT USA INC., Defendants.	§ § § § § § § § § § §	CIVIL ACTION NO. 2:17-cv-00662-JRG **JURY TRIAL DEMANDED**

THE T-MOBILE AND SPRINT DEFENDANTS' MOTION TO DISMISS

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T-Mobile USA, Inc., T-Mobile US, Inc., Sprint Spectrum L.P., and Nextel Operations, Inc. (collectively "Carrier Defendants") move to dismiss the following five patents from Plaintiff Intellectual Ventures II LLC's ("IV") Complaints: U.S. Patent Nos. 8,682,357 (Count I), 8,897,828 (Count II), 9,320,018 (Count IV), 9,532,330 (Count V), and 9,681,446 (Count VI). Each of those patents recites patent-ineligible subject matter under 35 U.S.C. § 101. The Carrier Defendants respectfully request that the Court dismiss those counts from IV's Complaints.

I. LEGAL SUMMARY

A. Patent Eligibility Is Appropriately Decided at the Pleading Stage

Dismissal under Rule 12(b)(6) is appropriate "when a complaint fails to state a plausible claim for relief, even where all well-pleaded facts are accepted as true and viewed in the light most favorable to the plaintiff." *Network Architecture Innovations LLC v. CC Network Inc.*, No. 2:16-cv-00914-JRG, 2017 WL 1398276, at *3 (E.D. Tex. Apr. 18, 2017). Although the Court must accept all well-pleaded facts as true, that tenet "is inapplicable to legal conclusions." *Ashcroft v. Iqbal*, 556 U.S. 662, 678 (2009). Patent eligibility is a "pure question of law" that a court can appropriately decide at the pleading stage. *Preservation Wellness Techs. LLC v. Allscripts Healthcare Sols.*, No. 2:15-cv-1558-WCB, 2016 WL 2742379, at *6 (E.D. Tex. May 10, 2016) (Bryson, J.).

B. 35 U.S.C. § 101 Bars a Claim Directed to an Abstract Idea if the Claim Does Not Recite an Inventive Concept

35 U.S.C. § 101 is a "gateway to the Patent Act" that establishes requirements for patentable subject matter that "must be satisfied before a court can proceed to consider subordinate validity issues." *Ultramercial, Inc. v. Hulu, LLC*, 772 F.3d 709, 718 (Fed. Cir. 2014). In *Alice*, the Supreme Court established a two-part test for determining whether a patent recites a patent-ineligible concept. *Alice Corp. Pty. Ltd. v. CLS Bank Int'l*, 134 S. Ct. 2347, 2355 (2014).

The first step in this analysis requires the Court to "determine whether the claims . . . are directed to [a] patent-ineligible concept[]," such as an abstract idea. *Id.* The Court's analysis should focus on the language of the claims and, in particular, the "concept embodied by the majority of the limitations," rather than fixating on excess verbiage or implementation details recited in the claims. *Ultramercial*, 772 F.3d at 715. A claim that can be performed mentally or analogized to brick-and-mortar concepts likely contains an abstract idea. *See, e.g.*, *Synopsys, Inc. v. Mentor Graphics Corp.*, 839 F.3d 1138, 1149 (Fed. Cir. 2016) (finding an abstract idea where the claim was "so broad as to read on an individual performing the claimed steps mentally or with pencil and paper"); *Intellectual Ventures I LLC v. Symantec Corp.*, 838 F.3d 1307, 1314 (Fed. Cir. 2016) (finding an abstract idea by analogizing claim to brick-and-mortar post office).

The second step in this analysis is "a search for an 'inventive concept'" where the Court must ask "what else is there in the claims before us?" *Alice*, 134 S. Ct. at 2355. The Court must consider the claim elements "individually" and "as an ordered combination" to determine if the claim recites "significantly more" than the abstract idea itself. *Orostream LLC v. ABS-CBN Int'l*, No. 2:15-cv-248-JRG, 2015 WL 5836949, at *3 (E.D. Tex. Oct. 1, 2015). Merely reciting "well-understood, routine, conventional activity" is not enough to transform an abstract idea. *Intellectual Ventures I LLC v. Erie Indemnity Co.*, 850 F.3d 1315, 1328 (Fed. Cir. 2017). Limiting a claim to a particular environment also does not add any inventive concept to save an abstract claim from an ineligibility finding. *See, e.g.*, *Content Extraction & Transmission LLC v. Wells Fargo Bank*, 776 F.3d 1343, 1348 (Fed. Cir. 2014).

II. THE '330 AND '357 PATENTS RECITE PATENT-INELIGIBLE SUBJECT MATTER

A. Background of the '330 and '357 Patents

The '330 and '357 Patents are directed to "Paging in a Wireless Network." *See, e.g.*, Ex.

1, '330 Patent at Title. The patents describe a "conventional paging procedure" that uses two signals to convey the paging message. *Id.* at 2:5-13. This procedure uses a first paging signal to indicate to the phone (referred to as a "UE" in the patent) that a page is being sent to a UE or group of UEs. *Id.* at 2:6-8. If the first paging signal identifies the UE or a group including the UE, then the UE monitors for a second paging signal, which carries the actual page message for the UE or group of UEs.[1] *Id.* at 2:8-12. The second paging signal is carried on a channel that is shared among multiple UEs, and the UE knows where on the shared channel to look for the second paging signal using a "fixed time offset from the first paging signal." *Id.* at 2:11-13.

Claim 26 of the '330 Patent, shown below, recites a method of using two paging signals that is nearly identical to the known techniques described in the patent's background section.[2] In the claimed technique, the "conventional" first paging signal is highlighted blue, and the "conventional" second paging signal is highlighted green.

> A method performed by a user equipment (UE), the method comprising:
>
> monitoring, by the UE in a long-term evolution (LTE) network, downlink transmissions for a signal to indicate a page from a network device, wherein the signal includes an indication of a shared channel and the signal is derived from a radio network temporary identifier (RNTI); and
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> receiving, by the UE, a transmission on the indicated shared channel.

The asserted claims simply append an additional piece of information (e.g., in the '330 Patent, "an indication of a shared channel") to the first paging signal of the "conventional paging

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[1] The patents describe that UEs can be identified in a message using "the international mobile subscriber identity (IMSI) or temporary mobile subscriber identity (TMSI), ***which are known in the 3G standard***." *Id.* at 5:40-43 (emphasis added).

[2] IV's Complaint identifies Claims 1, 9, 18, and 26 of the '330 Patent and Claims 11, 30, and 47 of the '357 Patent. For purposes of this motion, Claim 26 of the '330 Patent is representative of all claims in those patents. Those claims contain analogous steps recited from the same or different network perspective as Claim 26. All of the claims are "substantially similar and linked to the same abstract idea" as representative Claim 26. *Content Extraction*, 776 F.3d at 1348.

procedure" described in the "Description of Related Art."[3]

B. The Challenged Claims Are Directed to an Abstract Idea

As shown immediately above, Claim 26 recites two results-based steps of "monitoring" and "receiving" that span a mere eight lines. Reduced to its conceptual elements, Claim 26 involves (1) monitoring for a signal that indicates a page from a network device, where the signal includes an indication of a channel and (2) receiving a transmission on the indicated channel. The core concept underlying those steps is the abstract idea of monitoring for an indicator that includes instructions for receiving information.

1. Claim 26 Is Analogous to Claims that Courts Have Held Recite Abstract Ideas

Claim 26 recites basic functionality of "monitoring" for and "receiving" information that is analogous to claims that the Supreme Court and Federal Circuit have held abstract. In *Two-Way Media*, the Federal Circuit invalidated a claim to a "method for transmitting message packets over a communications network" that involved, among several other steps, "routing [a stream of addressed digital packets] to one or more users" and "monitoring the reception of packets by the users." *Two-Way Media Ltd. v. Comcast Cable Commcn's, LLC*, 874 F.3d 1329, 1334-38 (Fed. Cir. 2017). The Federal Circuit found no error in the district court's holding that the claim recited the abstract idea of "(1) sending information . . . [and] (3) monitoring the receipt of the sent information." *Id.* at 1337. Here, Claim 26 recites a similar "monitoring" step and replaces *Two-Way Media*'s "sending" step with a "receiving" step. But merely replacing "sending" with "receiving" does not make Claim 26 any less abstract, as the claims the Supreme Court held

[3] The claim also recites a "long term evolution (LTE) network;" however, the patent specification uses the prior art UMTS wireless network to describe the alleged invention, thus eliminating any argument that using the method in an LTE environment makes the idea any less abstract or inventive. *Id*. at 4:56-58 (explaining that the radio access network ("RAN") can be UMTS).

abstract in *Alice* involved receiving information over networks connecting the intermediary to the other institutions involved. *Alice*, 134 S. Ct. at 2352 n.2; *see also Elec. Power Grp., LLC v. Alstom S.A.*, 830 F.3d 1350, 1351-54 (Fed. Cir. 2016) (holding abstract an eight-step method involving multiple "receiving" steps); *Affinity Labs of Texas, LLC v. DirecTV, LLC*, 838 F.3d 1253, 1255-56, 1258 (Fed. Cir. 2016) (holding abstract a claim to a "broadcast system" with a "wireless cellular telephone device" that could, among multiple other things, "receive a streaming media signal in the wireless cellular telephone device corresponding to the regional broadcast channel").

Claim 26 also is analogous to the claims that this Court held abstract in *Orostream* and *Network Architecture*. In *Orostream*, this Court held abstract a similar two-step method involving "monitoring length of time necessary for transfer of each target information packet" and "adjusting the rate of target information transfer in response to the monitored transfer time." *Orostream*, 2015 WL 5836949, at *1, 3. Claim 26 also recites a step of "monitoring" for information and merely replaces *Orostream*'s "adjusting" step with an even more basic step of "receiving" a transmission. In *Network Architecture*, the Court held abstract claims involving receiving information, adding a bulletin to the received information, and transmitting the information and bulletin over a wide area computer network. *Network Architecture*, 2017 WL 1398276, at *2, 4. Claim 26 is analogous to the "receiving" steps in those claims, because Claim 26 involves "monitoring" for information sent from a network and "receiving" a separate transmission. Claim 26 also is more abstract than the *Network Architecture* claims: the *Network Architecture* claims modified the received information by adding information and then transmitted both the received and added information, whereas Claim 26 merely involves receiving information without modification or further use of the information.

Claim 26's recitation of receiving "an indication of a shared channel" does not make the

claim any less abstract. *See Elec. Power*, 830 F.3d at 1353 ("[W]e have treated collecting information, including when limited to particular content (which does not change its character as information), as within the realm of abstract ideas."). "[A]n indication of a shared channel" is generic, and the claim provides no particular details about the indication. Moreover, the indication is merely information, and "[i]nformation as such is an intangible." *Id.*[4]

Claim 26's functional, results-based language confirms the claim's abstractness. The claim requires functional results of "monitoring" and "receiving," but does not describe how to achieve the results in a non-abstract way. Claim 26 allows for "monitoring" and "receiving" in any manner, so long as those results are achieved. This functional language is akin to the functional language of "monitoring" and "routing" held ineligible in *Two-Way Media*. *Two-Way Media*, 874 F.3d at 1337. Claim 26's recitation of "receiving" as opposed to the functional "routing" in *Two-Way Media* provides no meaningful difference, because "receiving" is a more basic function than "routing" and, in any event, the Federal Circuit has faulted similar "receiving" language as functional. *Affinity Labs*, 838 F.3d at 1258 (noting that the claim recited a function without a particular way of performing the function where the claim involved a telephone "to receive a streaming media signal").

2. Claim 26 Is Analogous to Long-Prevalent Practices

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[4] Claim 26's recitation of "the signal derived from a radio network temporary identifier (RNTI)" also does not alter the abstract character of the claim. The Federal Circuit has held abstract claims translating information from one form to another, including in claims that specifically recite "deriving" such information. *Digitech Image Techs., LLC v. Elecs. for Imaging, Inc.*, 758 F.3d 1344, 1351 (Fed. Cir. 2014) ("[A] process that employs mathematical algorithms to manipulate existing information to generate additional information is not patent eligible."); *Elec. Power*, 830 F.3d at 1352 (holding abstract a claim that recited, among other limitations, "deriving" one type of information from a combination of other information); *RecogniCorp, LLC v. Nintendo Co., Ltd.*, 855 F.3d 1322, 1327 (Fed. Cir. 2017) (holding abstract a claim that recited "deriv[ing]" a "facial image code"). As in those cases, Claim 26 recites a derivation of a signal from a type of information (RNTI). This limitation also fails to impart patentability, because it does not provide any particular detail about how the derivation is done.

The basic concept of Claim 26 is analogous to a "long-prevalent practice," evidencing the abstractness of the claim. *Symantec Corp.*, 838 F.3d at 1314. For example, a plane in a squadron of fighter jets may be monitoring communications from an air-traffic controller on a particular frequency channel. The plane hears a communication from the air-traffic controller: "Squadron One, go to the standby frequency channel at 03:00 for additional communications." The planes in Squadron One change to the standby frequency channel at the specified time. A plane within Squadron One then receives a communication on the standby frequency channel from the air-traffic controller directed to that particular plane (e.g., Plane One). Claim 26 is thus analogous to the long-standing practice of monitoring for a communication on one channel that instructs a group of listeners to go to a different channel for more communications and receiving the additional communications on the indicated channel.

Accordingly, Claim 26 is directed to an abstract idea, and the Court should proceed to Step 2 of the *Alice* inquiry.

C. The Challenged Claims Do Not Contain an Inventive Concept

The second part of the analysis asks, beyond the abstract idea, "[w]hat else is there in the claims?" *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 78 (2012). Claim 26's two-step method does not add much beyond the abstract idea itself. The only additional limitations invoke generic, conventional computer components and activities, and limit the claim to a technological environment. Those types of limitations do not save the claim.

1. The Individual Elements Do Not Add an Inventive Concept

The "monitoring" step does not supply an inventive concept. *First*, that step almost entirely comprises the abstract idea itself. That is, Claim 26's recitation of "monitoring . . . downlink transmissions for a signal to indicate a page from a network device, wherein the signal includes an indication of a shared channel" amounts to the abstract idea of monitoring for an indicator that

includes instructions for receiving information. *Ultramercial*, 772 F.3d at 715-16 (concluding that the majority of the steps comprised the abstract idea and finding no inventive concept in the additional elements of the claim). The only additional elements of the step—"downlink transmissions," "a signal to indicate a page," and "an indication of a shared channel"—are a function of reciting the step in the context of a wireless environment. *Erie Indemnity*, 850 F.3d at 1329 ("The use of metafiles to build the claimed index is yet another natural consequence of carrying out the abstract idea in a computing environment and is . . . insufficient to transform a patent-ineligible abstract idea into a patent-eligible invention.").[5] *Second*, the specification establishes that the "monitoring" step is a conventional activity. Like Claim 26, the specification describes a "conventional paging procedure" involving a UE first monitoring for a signal that includes an indication of a page message. *See supra* at 3. Claim 26 merely adds a generic piece of information—"an indication of a shared channel"—to the signal in that conventional procedure. But simply adding a generic piece of information to a conventional signal does not supply an inventive concept. *Cellular Commcn's Equip. LLC v. AT&T Inc.*, No. 2-15-cv-00576-RWS-RSP, 2017 WL 2984074, at *1 (E.D. Tex. June 27, 2017) ("*CCE*") (holding that a claim lacked an inventive concept where the claim added additional information (missing power) to a conventional power headroom report).[6]

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[5] Claim 26's recitation of "signal [that] is derived from a radio network temporary identifier (RNTI)" does not add an inventive concept. This recitation involves the mere manipulation of information from one form to another that courts have held does not transform an abstract idea into patent-eligible subject matter. *See supra* at 6 n.4. And, Claim 26 functionally claims that the signal is "derived" without specifying how the derivation is done, thus precluding its contribution as an inventive concept. *Two-Way Media*, 874 F.3d at 1339 (finding that the lack of claimed detail about a "protocol" and a "signal" precluded those concepts from contributing to the inventive concept determination).

[6] The "monitoring" step is akin to the "monitoring" step this Court held as lacking an inventive concept in *Orostream*. *Orostream*, 2015 WL 5836949, at *1, 3. That claim involved a more complex step of "monitoring length of time necessary for transfer of each target information

The "receiving" step also does not add an inventive concept. *First*, the "receiving" step recites basic computer functionality that is "not even arguably inventive." *buySAFE, Inc. v. Google, Inc.*, 765 F.3d 1350, 1355 (Fed. Cir. 2014); *Erie Indemnity*, 850 F.3d at 1331 ("[R]eceiving transmitted data over a network . . . merely implicates purely conventional activities that are the 'most basic functions of a computer.'"). This is particularly true where the claim recites reception of generic information (i.e., "a transmission") without any further detail. *Two-Way Media*, 874 F.3d at 1338 (finding that reciting "selection signals" without more precluded their contribution to the inventive concept). *Second*, the specification establishes that the "receiving" step is a conventional activity. Like Claim 26, the specification describes a "conventional paging procedure" involving receiving a page message on a shared channel. *See supra* at 3.

Claim 26's recitation of generic, conventional computer components—"a user equipment (UE)" and "a network device"—also does not add an inventive concept. *Alice Corp.*, 134 S. Ct. at 2358; *see also CCE*, 2017 WL 2984074, at *4 (holding that a "user equipment" was not an inventive concept); *In re TLI Commcn's LLC Patent Litig.*, 823 F.3d 607, 614 (Fed. Cir. 2016) (holding that a "server" was not an inventive concept). Claim 26 generically recites those claim elements without imposing any restrictions on them in the claim, and the '330 Patent establishes that "a user equipment" and "a network device" are conventional components. Ex. 1, '330 Patent at 2:5-11 (describing that UEs were used in the "conventional paging procedure"), 1:25-27 (describing a "Radio Access Network (RAN) of base stations"). At most, these elements supply the environment in which the abstract idea operates, and that is insufficient at Step 2. *In re TLI*

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packet," whereas Claim 26 more generically monitors for a signal.

Commcn's, 823 F.3d at 614 ("[T]he telephone unit simply provides the environment in which the abstract idea . . . is carried out.").

Nor does Claim 26's recitation of a "long-term evolution (LTE) network" add an inventive concept. Claim 26's recitation of an LTE network is a quintessential example of limiting an abstract idea to a technological environment. *Id.* Claim 26's only recitation of LTE is that the "receiving" step be done by a "UE in a long-term evolution (LTE) network" ***without any specificity about the LTE network***. This is akin to limiting a claim to performance on the Internet. *Ultramercial*, 772 F.3d at 716 ("The claims' invocation of the Internet also adds no inventive concept. As we have held, the use of the Internet is not sufficient to save otherwise abstract claims from ineligibility."). This type of claiming also amounts to a drafter's choice of a network from a limited range of networks, and that choice does not transform the abstract idea into patent-eligible subject matter. *See Affinity Labs*, 838 F.3d at 1264 (finding no inventive concept, reasoning that the claims "all recite functions that are not inventive but simply constitute particular choices from within the range of existing content or hardware, such as specifying that the regional broadcast is FM radio or video content"). Moreover, the specification does not describe that there is anything unconventional about the claimed LTE network. *CCE*, 2017 WL 2984074, at *4 ("Nothing in the patent suggests the equipment . . . [is] any different than the equipment . . . necessary to determine and transmit a power headroom report in a conventional implementation."). To the contrary, the specification specifically describes its invention as equally applicable to the prior art UMTS environment. Ex. 1, '330 Patent at 4:50-51, 56-58 (explaining that the RAN in the "invention" can be UMTS).

2. The Combination of Steps Does Not Add an Inventive Concept

The ordered combination of steps in Claim 26 involves a conventional order that does not add an inventive concept. *Two-Way Media*, 874 F.3d at 1339 ("The claim uses a conventional

ordering of steps . . . with conventional technology to achieve its desired result."). As established above, the specification describes a "conventional paging procedure" involving two steps of "monitoring" and "receiving": the UE first monitors for a paging signal indicating a page message and then the UE receives a page message. *See supra* at 3. Claim 26 recites that exact same conventional ordering of steps: first "monitoring . . . for a signal to indicate a page" and then "receiving . . . a transmission." And as with the "conventional paging procedure," Claim 26 also recites the same conventional arrangement of components performing the steps: a UE "monitoring" for "downlink transmissions for a signal to indicate a page from a network device" and the UE "receiving" a transmission.[7]

Accordingly, representative Claim 26 fails Step 2 of the *Alice* inquiry, because the claim elements recite conventional steps implemented on generic, conventional computer technology. The Court should dismiss IV's counts with respect to the '330 and '357 Patents because the claims in those patents fail to recite patent-eligible subject matter.

III. THE '018 AND '466 PATENTS RECITE PATENT-INELIGIBLE SUBJECT MATTER

A. Background of the '018 and '466 Patents

The '018 and '466 Patents share a common specification and priority claim, and are directed to "scheduling transmissions on channels in a wireless network." *See, e.g.*, Ex. 2, '466 Patent at Title. The "Background of the Invention" section of the patents describes that "most

[7] Since Claim 26 is representative of all claims in the '330 and '357 Patents, all dependent claims in those patents fall with Claim 26. *Elec. Power*, 830 F.3d at 1352. Regardless, the dependent claims of the '330 Patent do not recite an inventive concept, because they recite (1) conventional activity using conventional information (Claims 27 and 34), (2) an environment in which the abstract idea is performed (Claims 28, 31, and 32), and (3) conventional information (Claims 29, 30, and 33). The dependent claims of the '357 Patent are not meaningfully different from those dependent claims and thus also fail to add an inventive concept.

packet based systems contain schedulers," *id.* at 2:65-3:3, and acknowledges that it was known for a scheduler to prioritize a user's packets based on information derived from inputs to the scheduler. In particular, the patents identify prior art that describe prioritizing the user's packets based on the quality of service (QoS) of the radio bearers to which the packets are assigned. *Id.* at 3:8-13 (citing U.S. Patent No. 6,845,100); *see also id.* at 6:6-7 ("[P]rior art techniques . . . allow[ed] prioritization within a user's allocation."). This known technique could be used in either the uplink or downlink direction. *See, e.g.*, Ex. 3, '100 Patent at 17:8-10.[8]

The '466 and '018 Patents generally claim a similar concept of prioritizing data for uplink transmission based on numeric values that are derived from a received input value. Claim 6 of the '466 Patent is representative:[9]

> A method performed by a user equipment (UE), the method comprising:
>
> receiving, from a network device, a first transmission including a first parameter corresponding to each of a plurality of channels and a second transmission including an allocation message for an uplink resource from the network device;
>
> allocating, by a processor, resources in response to the allocation message, wherein resources are allocated for data of each channel having a second parameter above zero prior to another channel's data for transmission having a third parameter less than or equal to zero; and
>
> wherein the second parameter is derived from a first channel's first parameter and the third parameter is derived from a second channel's first parameter.

B. The Challenged Claims Are Directed to an Abstract Idea

Claim 6 involves two steps: (1) receiving an input parameter and an allocation message; and (2) allocating resources so that a channel with a parameter greater than zero is prioritized over

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[8] The '100 Patent is cited in the patents and is therefore part of the intrinsic record.

[9] IV's Complaint identifies Claims 1, 4, 6, and 9 of the '466 Patent and Claims 12, 20, and 24 of the '018 Patent. For purposes of this motion, Claim 6 of the '466 is representative of all claims in those patents. The main difference between the claims is that they are recited from different perspectives. The claims in those patents are therefore "substantially similar and linked to the same abstract idea" as representative Claim 6. *Content Extraction*, 776 F.3d at 1348.

a channel with a parameter less than or equal to zero. These steps amount to the abstract idea of ordering allocation of resources based on numeric rankings of parameters.[10]

1. Claim 6 Is Analogous to Claims that Courts Have Held Recite Abstract Ideas

The abstract idea underlying Claim 6—ordering allocation of resources based on numeric rankings of parameters—is analogous to cases treating organizing or classifying information as abstract. *Cyberfone Sys., LLC v. CNN Interactive Grp., Inc.*, 558 F. App'x 988, 992 (Fed. Cir. 2014) (noting that "using categories to organize, store, and transmit information is well-established" and holding that the "idea of collecting information in classified form, then separating and transmitting that information according to its classification" was abstract); *In re TLI Commc'ns*, 823 F.3d at 611 (holding that "classifying and storing digital images in an organized manner" was abstract); *Digitech*, 758 F.3d at 1350 (holding that "organizing information through mathematical correlations" was abstract).

Here, the concept of "ordering allocation of resources based on numeric rankings of parameters" is akin to "collecting information in classified form, then separating and transmitting that information according to its classification" found abstract in *Cyberfone*. For purposes of the abstract idea inquiry, "ordering" allocation of resources is not meaningfully different than the "categorizing" information for transmission in *Cyberfone* or "classifying" information for storage in *In re TLI*. And "ordering allocation . . . based on numeric rankings of parameters" is almost identical to the concept of "organizing information through mathematical correlations" found abstract in *Digitech*. Ordering "based on numerical rankings" also is akin to performing a routine

[10] Claim 6's derivation of the "second parameter" and "third parameter" from the "first parameter" does not make the claim any less abstract. *First*, that type of derivation merely translates data from one form to another. *See supra* at 6 n.4. *Second*, Claim 6 uses functional, results-based language that does not specify how the derivation is done.

function based on conventional information. *See Symantec*, 838 F.3d at 1314 ("Characterizing email based on a known list of identifiers is no less abstract.").

Claim 6 also is more abstract than the claims that the Supreme Court held patent ineligible in *Parker v. Flook*. 437 U.S. 584 (1978). In that case, the claims recited a series of steps involving novel mathematical calculations that were used to adjust an alarm limit. Three of the claimed steps involved "determining the present value of said process variable . . . being defined as PVL," "determining a new alarm base B_1, using the following equation: $B_1=B_0(1.0-F) + PVL(F)$," and "determining an updated alarm limit which is defined as $B_1 + K$." *Id.* at 597. The Court held that claim as lacking patentable subject matter, reasoning "if a claim is directed essentially to a method of calculating, using a mathematical formula, even if the solution is for a specific purpose, the claimed method is nonstatutory." *Id.* at 595. The specificity in *Parker*'s patent-ineligible algorithm stands in sharp contrast to the absence of any such specific algorithm in Claim 6. While *Parker*'s claims recited multiple steps involving specific algorithms, Claim 6 recites a black-box algorithm—indeed, Claim 6 allows the only inputs to its allocation algorithm—the generic second and third parameters—to be derived ***in any manner possible***. This type of generic, functional claiming abstracts the algorithm away.

This District also has held abstract claims analogous to Claim 6. In *Image Processing*, the Court held abstract a claim that received data for "parameters" that were used as an input to generate a histogram. Ex. 4, *Image Processing Techs., LLC v. Samsung Elecs. Co.*, No. 2:16-cv-00505-JRG, slip op. at 2, 7 (E.D. Tex. Oct. 24, 2017). In *CCE*, the court held abstract a claim that determined power headroom using a mathematical equation. *CCE*, 2017 WL 2984074, at *1, 3-4. Like the *Image Processing* claim's use of a "parameter" as an input to calculate a histogram, Claim 6 uses a generic "parameter" to determine the order of allocation. And similar to the *CCE* claim,

Claim 6 determines an order of allocation using a mathematical equation. But Claim 6's recitation of that equation is more abstract than the equation in *CCE*, because Claim 6 merely recites generic "parameters," whereas *CCE*'s equation uses specific variables like the "nominal maximum transmission power." *Id.* at *1.

2. A Human Can Perform Claim 6 Mentally or On Pen and Paper

Courts consistently treat claims that can be performed by a human—mentally or on pen-and-paper—as abstract ideas. *See, e.g.*, *Synopsys*, 839 F.3d at 1147. Claim 6 is that type of claim.

Claim 6 is analogous to a student solving a math problem. For example, a student can perform the "receiving" step by receiving instructions from a teacher specifying that (1) "the first parameter for channel one is five and the first parameter for channel two is ten" and (2) there are "five resources" allocated for the two channels. The student can then derive a "second parameter" for channel one and a "third parameter" for channel two from each channel's first parameter in any manner the student chooses, since Claim 6 does not specify how to derive the parameters (e.g., the student may subtract five from each channel's first parameter such that the second parameter for channel one becomes zero and the third parameter for channel two becomes five). The student can solve Claim 6's mathematical algorithm mentally or on pen-and-paper using the derived parameter values: since channel two's third parameter is above zero and channel one's second parameter is below zero, the algorithm dictates that resources should be allocated to channel two before channel one. The student can then write the allocation on paper.

Claim 6's recitation of generic computer components does not alter this analysis. Courts have frequently found claims directed to mental processes even in claims that recite computer components. *Mortgage Grader Inc. v. First Choice Loan Servs., Inc.*, 811 F.3d 1314, 1324 (Fed. Cir. 2016) (holding claim abstract where claim recited a "computer system" and various "interface[s]," reasoning that "the series of steps covered by the asserted claims . . . could all be

performed by humans without a computer."); *Clear with Computers, LLC v. Altec Indus., Inc.*, N. 6:14-cv-79, 2015 WL 993392, at *4 (E.D. Tex. Mar. 3, 2015) ("The steps performed by the claimed computer elements . . . could easily be performed by a human.").[11] Like those cases, Claim 6's recitation of a generic "network device" and "processor" does not preclude the claim from being an abstract mental process.

Accordingly, representative Claim 6 is directed to the abstract idea of ordering allocation of resources based on numeric rankings of parameters. The Court should therefore proceed to Step 2 of the *Alice* analysis.

C. The Challenged Claims Do Not Contain an Inventive Concept

Most of Claim 6 recites the abstract idea of ordering allocation of resources based on numeric rankings of parameters. The only additional elements of the claim invoke generic computer components to implement routine activities of "receiving" and "allocating." Those limitations do not supply an inventive concept.

1. The Individual Elements Do Not Add an Inventive Concept

Claim 6's recitation of generic computer components—"a processor" and "a network device"—does not supply an inventive concept. *Alice Corp.*, 134 S. Ct. at 2358. Claim 6 generically recites those components without any limit on them. And the specification lacks any description of "a processor" and "a network device," evidencing the generic nature of those terms. Even though those components are not described in the specification, the specification establishes that a UE (which contains a processor) and a base station were conventional components in

[11] As one district court stated, "[t]he pen-and-paper test does not require described electronic components to literally exist on paper: instead, it is an analytical tool to test whether the underlying concept described in the claims is abstract." *OpenTV, Inc. v. Apple, Inc.*, No. 14-cv-01622-HSG, 2015 WL 1535328, at *4 (N.D. Cal. Apr. 6, 2015).

existing cellular communication systems (e.g., the 3rd generation system). Ex. 2, '466 Patent at 2:23-35. Notably, the "processor" and "network device" also provide the same generic components recited in claims courts have held ineligible. *In re TLI Commcn's*, 823 F.3d at 613-14 (finding that a "control unit" and a "server" fail to add an inventive concept); *CCE*, 2017 WL 2984074, at *4 (finding that a "user equipment" did not add an inventive concept). At best, these components merely provide the environment in which the abstract idea is carried out, and that is insufficient to save a claim. *Content Extraction*, 776 F.3d at 1348.

Turning to the steps of Claim 6, the "receiving" step does not add an inventive concept. *First*, a processor "receiving" transmissions from a network device involves a basic computer function that is "not even arguably inventive." *buySAFE*, 765 F.3d at 1355; *Erie Indemnity*, 850 F.3d at 1331 ("[R]eceiving transmitted data over a network . . . merely implicates purely conventional activities that are the 'most basic functions of a computer.'"). That outcome does not change based on the type of information received, particularly where Claim 6 generically recites reception of an unspecified "parameter" and a conventional "allocation message for an uplink resource" without any meaningful limits on those terms. *See Elec. Power*, 830 F.3d at 1355 (holding that a claim lacked an inventive concept where the claim "enumerat[ed] types of information and information sources available within the power-grid environment"). *Second*, the "receiving" step amounts to conventional "[pre]-solution activity." *Mayo*, 566 U.S. at 79. The "receiving" step merely involves receiving an initial parameter for use in implementing the abstract idea in the "allocating" step. This step is the type of insignificant activity that does not circumvent the prohibition against patenting abstract ideas.[12]

[12] Claim 6's recitation of "a plurality of channels" does not add an inventive concept. Claim 6 generically claims those channels without any further detail, precluding their contribution as an inventive concept. *Two-Way Media*, 874 F.3d at 1339 (finding that the lack of claimed detail about

The "allocating" step also does not add an inventive concept. The "allocating" step is largely directed to the abstract idea itself. That is, the "allocating" step's recitation of allocating to one channel before another channel based on their parameter values amounts to the abstract idea of ordering allocation of resources based on numeric rankings of parameters. *Ultramercial*, 772 F.3d at 715-16 (concluding that the majority of the steps comprised the abstract idea and finding no inventive concept in the additional elements of the claim). The only additional elements beyond the abstract idea—"allocating . . . resources in response to the allocation message"—merely add routine, conventional activity. *Erie Indemnity*, 850 F.3d at 1328 (reciting "well-understood, routine, conventional activity" is not enough to add an inventive concept). The intrinsic record establishes that existing systems conventionally prioritized (i.e., ordered) and allocated resources irrespective of whether the allocation occurred on the network or at the UE. *See supra* at 12.

Moreover, the "allocating" step bears a hallmark of claims that lack an inventive concept: the step is functionally recited. *Elec. Power*, 830 F.3d at 1356 ("[T]he essentially result-focused, functional character of claim language has been a frequent feature of claims held ineligible under § 101."). The step calls for allocation of resources to one channel before another channel based on their parameter values. But the claim is silent on how to determine those parameter values, rendering the recited "algorithm" meaningless. Indeed, the "wherein" clause merely recites that the "second parameter" and "third parameter" are "derived from" the "first parameter" without specifying ***how*** the derivation is done. This type of functional claiming confirms the lack of inventive concept in the "allocating" step.[13]

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a "protocol" and a "signal" precluded those concepts from contributing to the inventive concept determination).

[13] The "wherein" clause cannot supply an inventive concept. That clause involves the mere translation of information—deriving one parameter from another parameter—without any detail

2. The Combination of Steps Does Not Add an Inventive Concept

The combination of Claim 6's two steps does not add anything "not already present when the steps are considered separately." *Mayo*, 566 U.S. at 79.

First, Claim 6 recites a conventional ordering of steps where a UE first receives a parameter and an allocation message, and then uses that parameter in an allocation algorithm in response to the allocation message. This ordering is routine and common sense: an algorithm cannot be executed until it has its input values. This common-sense ordering mirrors the ordering of steps of the patent-ineligible claim in *Parker* where the claim recited first determining an input value ("a new alarm base B_1") and then using that value to execute an algorithm ("B_1 + K"). *Parker*, 437 U.S. at 597. Claim 6's steps also provide no more than similar combinations of steps that courts have previously held as lacking an inventive concept. *Two-Way Media*, 874 F.3d at 1338 (holding that first processing and then routing data used a conventional ordering of steps); *Cyberfone*, 558 Fed. App'x at 993 (holding that the ordered combination of obtaining and then sending information lacked an inventive concept).

Second, Claim 6 recites a conventional distribution of functionality. Indeed, the claim recites a conventional arrangement where a UE receives transmissions from a network device and the UE allocates resources in a prioritized order. This distribution of functionality is the same as the conventional distribution described in the intrinsic record. *See supra* at 12. And, in any event, the patent establishes that the distribution of functionality is not inventive: "***any suitable distribution of functionality*** between different functional units or logic elements may be used without detracting from the inventive concept herein described." Ex. 2, '466 Patent at 13:3-6.[14]

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on how the translation is done. *See supra* at 6 n.4.

[14] Since Claim 6 of the '466 Patent is representative of all claims in the '466 and '018 Patents, the dependent claims in those patents fall with Claim 6. *Elec. Power*, 830 F.3d at 1352 (holding all

Accordingly, representative Claim 6 does not contain an inventive concept. The Court should dismiss IV's counts with respect to the '018 and '466 Patents because the claims in those patents fail to recite patent-eligible subject matter.

IV. THE '828 PATENT RECITES PATENT-INELIGIBLE SUBJECT MATTER

A. Background of the '828 Patent

The '828 Patent describes an issue that humans have faced since time immemorial: how to determine the best volume for sounds being communicated. A choir presents a good example of this problem. A choir director instructs the choir singers that the singers should themselves determine how loudly they should project their voices to sing unless the director also uses a hand signal to indicate that a particular singer or singers in one of the four parts (alto, soprano, tenor, or bass) should project more loudly. The reason for the director's hand signals could be to ensure that a particular part is not drowned out by the other parts or the accompanying organ. Or, if one or more singers in a particular part is too loud, the director may use a signal to indicate a lower volume level, to ensure that they are not drowning out other parts or the organ. The '828 Patent recognizes that this same long-standing problem also exists in wireless communications networks, where transmission power equates to speech volume: signals transmitted with increased power are typically easier to process because they result in fewer errors, but using too much power may interfere with reception of other signals. Ex. 5, '828 Patent at 1:18-22. Transmission power control schemes long have existed to deal with this issue. *Id.* at 1:22-24.

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claims invalid based on a representative claim). Regardless, the dependent claims of the '466 Patent do not add an inventive concept, because they merely recite (1) conventional computer activity that is not even arguably inventive (Claim 7) and (2) basic computer computations using generic information (Claim 8). The dependent claims of the '018 Patent are nearly identical to those claims and do not add an inventive concept. The only additional dependent claims in the '018 Patent (e.g., Claim 14) merely specify that the network receives a type of data, and that again is not even arguably inventive.

The '828 Patent's "Description of Prior Art" describes two conventional power control schemes that wireless communication systems "often" employ: an open loop scheme and a closed loop scheme. *Id.* at 1:41-43. In the open loop scheme, a UE (phone) determines "path loss" and then calculates its transmit power based on the determined path loss. *Id.* at 2:11-14.[15] In the closed loop scheme, a UE receives transmit power control (TPC) commands from the network and determines transmit power based on the TPC commands. *Id.* at 2:21-25.[16] The '828 Patent acknowledges that, at the time the '828 Patent was filed, it was well known to determine transmit power using either of these techniques. *Id*. at 1:41-43. During prosecution of the '828 Patent, the Patent Office pointed out that it also was well known to use a combination of open loop and closed loop power control methods. Ex. 6, *Ex parte* Anderson, No. 2011-010366 at 2, 7 (P.T.A.B. Mar. 3, 2014). Put simply, determining how loudly to sing (or "transmit") based on a combination of perceived losses in the received signals (open loop) and instructions from the receiver to increase or decrease power (closed loop) was well known as of the filing of the '828 Patent.[17]

B. The Challenged Claims Are Directed to an Abstract Idea

The claims of the '828 Patent recite determining a transmit power using one of two well-known techniques: either (1) open loop power control (i.e., path loss), or (2) a combination of open loop and closed loop power control (i.e., TPC commands), depending on an instruction that tells

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[15] The "open loop" or "path loss" technique is analogous to a choir singer adjusting the volume of her voice based on her mental measurements of the other singers, organ and surrounding environment to a level that will allow her to be heard by the audience without overwhelming the others.

[16] The "closed loop" technique is analogous to a singer adjusting the volume of her voice based on direction received from the choir director.

[17] IV identifies Claims 1, 15, and 29 of the '828 Patent in its Complaint. For purposes of this motion, Claim 15 is representative of all '828 Patent claims. The main difference between the claims is that they are recited from different network perspectives. The claims are therefore "substantially similar and linked to the same abstract idea" as representative Claim 15. *Content Extraction*, 776 F.3d at 1348.

whether to use one method or the other. Representative Claim 15 recites:

> A method performed by a wireless network, the method comprising:
>
> sending, by the wireless network, an indication of whether accumulation of transmit power control (TPC) commands is enabled;
>
> determining, by a user equipment (UE), a path loss of a downlink channel;
>
> receiving, on a single physical channel by the UE if accumulation is enabled, an allocation of a scheduled uplink resource and a TPC command, wherein the TPC command is accumulated with other received TPC commands;
>
> calculating, by the UE if accumulation is enabled, transmit power in association with an uplink communication based on both the path loss and the accumulated TPC commands; and
>
> receiving, on the single physical channel by the UE if accumulation is not enabled, an allocation of a scheduled uplink resource to transmit data to the wireless network at a power level calculated by the UE based on the path loss.

These steps amount to the abstract idea of selectively calculating a transmit power level based on feedback from the receiver and/or the transmitter's own measurements.

1. Claim 15 Is Analogous to Claims that Courts Have Held Recite Abstract Ideas

Representative Claim 15 is analogous to the claims the Supreme Court invalidated forty years ago in *Parker v. Flook*. *Parker*, 437 U.S. at 595. There, the claim recited several detailed steps directed to a novel mathematical calculation, including "determining an updated alarm limit which is defined as $B_1 + K$; and thereafter adjusting said alarm limit to said updated alarm limit value." *Id.* at 597. The Court held that the claim lacked patentable subject matter, reasoning that "if a claim is directed essentially to a method of calculating, using a mathematical formula, even if the solution is for a specific purpose, the claimed method is nonstatutory." *Id.* at 595.

Here, Claim 15 is directed to a similar "method of calculating, using a mathematical formula," because the core concept of the claims is merely two different ways of calculating transmit power. *Id.* Claim 15 is even more abstract than *Flook*'s claims as Claim 15 merely requires the "transmit power" to be "based on . . . path loss and the accumulated TPC commands"

without specifying a particular equation. *Compare* Claim 15 ("calculating . . . transmit power in association with an uplink communication ***based on*** both the path loss and the accumulated TPC commands"), *with Flook* ("determining an updated alarm limit which is ***defined as*** $B_1 + K$"). This generic recitation of an algorithm in Claim 15 allows the calculation of transmit power to be performed in any manner, so long as the calculation is "based on" path loss and accumulated TPC commands. Moreover, the claims here are directed to the calculation of transmit power itself without any further use of the calculation, whereas even the ineligible claims in *Flook* took the calculated alarm limit and used the limit to adjust a prior limit.

The Federal Circuit also has invalidated claims directed to analogous abstract ideas. *See, e.g., Coffelt v. NVIDIA Corp.*, 680 Fed. App'x 1010, 1011 (Fed. Cir. 2017) (non-precedential) (holding that a claim was directed to the abstract idea of "calculating and comparing regions in space" where the claim "recite[d] a series of calculating steps, i.e., an algorithm"); *RecogniCorp*, 855 F.3d at 1324, 1326 (holding that a claim was directed to the abstract idea of "encoding and decoding image data" where the claim recited, among other things, calculating an output code by performing a "multiplication operation" on input values and displaying images based on the calculated codes); *Digitech*, 758 F.3d at 1351 (holding that a claim was directed to the abstract idea of "a process of organizing information through mathematical correlations" and reasoning that "a process that employs mathematical algorithms to manipulate existing information to generate additional information is not patent eligible"). As with the mathematical concepts in those cases, the core concept of Claim 15 is a mathematical calculation of transmit power based on input values (path loss and/or TPC commands).

The claims here also are more abstract than analogous claims ruled ineligible in this District. In *CCE*, claim 1 recited a processor to "determine the power headroom by subtracting

the nominal maximum transmission power and the power that the apparatus would use if it did not apply maximum power limitations" and a transmitter to transmit the calculated power headroom. *CCE*, 2017 WL 2984074, at *1. The court held that the claim was directed to the abstract idea of "calculating and reporting the missing power of a network device." *Id.* at *3. Here, Claim 15 is akin to the *CCE* claims, because both recite mathematical algorithms for transmission power calculations. But Claim 15 is even more abstract, because it recites (i) that the calculation of transmit power is generically done "based on" path loss and TPC commands, whereas the *CCE* claims more particularly recite how to calculate power headroom (i.e., subtracting one variable from another); and (ii) the calculation of transmit power level without any further use of that calculated value, whereas the *CCE* claims calculated the power headroom and then reported the power headroom.[18]

The concept of selecting between two algorithms based on an indicator in Claim 15 does not make the claim any less abstract. To the contrary, that concept is a basic decision-making task that humans and computers perform alike. *Comcast IP Hldgs. I, LLC v. Sprint Commcn's Co.*, 55 F. Supp. 3d 544, 548 (D. Del. 2014) ("A decision is a basic mental process upon which everyone relies."). Humans decide whether to stop or go through a stoplight based on whether the light is red or green. Computers routinely execute conditional "if" statements to determine which code to execute next. This type of selective decision-making is analogous to concepts courts have held abstract. *UbiComm, LLC v. Zappos IP, Inc.*, No. 13-1029-RGA, 2013 WL 6019203, at *3 (D. Del. Nov. 13, 2013) (holding that a conditional action—an action that is triggered based upon a

[18] Notably, the *CCE* court held that recitation of "user equipment" did not "substantively limit the claim." *Id.* Here, as in *CCE*, Claim 15's recitation of a "UE [i.e., user equipment]" and a generic "wireless network" does not make the claim any less abstract.

predefined parameter—is an abstract idea); *Umbanet, Inc. v. Epsilon Data Mgmt., LLC*, No. 2:16-cv-682-JRG, 2017 WL 1398274, at *4 (E.D. Tex. Apr. 18, 2017) (holding that selectively providing access to e-mail was an abstract idea where the patent described different modes of access); *Dealertrack, Inc. v. Huber*, 674 F.3d 1315, 1334 (Fed. Cir. 2012) (holding claim abstract where the claim involved a basic step of "selectively forwarding the data").

Claim 15's recitation of a generic method using results-based functional language further confirms the abstractness of the claim. *Two-Way Media*, 874 F.3d at 1337. Claim 15 recites the functional results of "sending," "determining," "receiving," and "calculating" without describing how to achieve those results in a non-abstract way. For example, Claim 15 does not specify a particular way of "determining . . . a path loss" or "calculating . . . transmit power . . . based on the path loss and the accumulated TPC commands;" instead, the claim allows for any way of determining path loss and any calculation that somehow involves "path loss and the accumulated TPC commands." This is the type of functional claiming that the Federal Circuit has frequently held abstract. *Id.* (holding abstract a claim requiring the functional results of "converting," "routing," "controlling," "monitoring," and "accumulating records"); *Affinity Labs*, 838 F.3d at 1258 (holding abstract a claim that functionally recited a broadcast system to, among other things, "transmit" and "receive" particular information).

2. Claim 15 Is Analogous to Longstanding Human Behavior

Claim 15 is analogous to behavior humans have used since the inception of communications. *See Symantec Corp.*, 838 F.3d at 1314 (holding that the claims recited an abstract idea where the claims were analogous to a "long-prevalent practice"). Humans have long determined how loudly they should project their own voice (whether in a choir, when giving a speech, or in day-to-day conversation) based on feedback from a listener and/or their own judgment. For example, in a choir, a director informs the choir whether the singers should

determine how loudly to project their singing voice or whether the director will provide hand signals commanding a particular volume for the singers. The singers are instructed to determine how loudly to project their singing voice based on their own judgment and perceptions unless provided specific commands by the conductor. Each member naturally will control her speaking volume based on path loss (i.e., the size of the room and other conditions that affect how the singer will be heard such as other singers and instrument volume). That is, the singer will instinctively determine how far away the listener is and how much path loss the listener's voice is experiencing, and take that into account to determine her own singing volume. But if the singer recognizes a hand signal commanding a particular volume at which she should sing, she naturally will continue to use the path loss analysis and will augment that analysis with the explicit commands received to sing more softly or loudly. This long-prevalent human practice of determining how loud to project a voice based on feedback from a listener and/or using the speaker's own judgment further evidences the abstract nature of Claim 15. *Id.*

Accordingly, representative Claim 15 is directed to the abstract idea of selectively calculating a transmit power level based on feedback from the receiving device and/or the transmitting device's own measurements. The Court should therefore proceed to Step 2 of the *Alice* analysis.

C. The Challenged Claims Do Not Contain an Inventive Concept

The only additional elements in Claim 15 beyond the abstract idea merely recite generic computer technology performing conventional activities specified at a high level of generality. Those types of limitations do not supply an inventive concept. Claim 15 therefore fails Step 2.

1. The Individual Elements Do Not Add an Inventive Concept

Claim 15's recitation of generic, conventional computer components—"a wireless network" and "a user equipment (UE)"—does not add an inventive concept. *Alice Corp.*, 134 S.

Ct. at 2358 ("[T]he mere recitation of a generic computer cannot transform a patent-ineligible abstract idea into a patent-eligible invention."). Those elements are recited at a high-level of generality, and the specification establishes that both components were conventional. Ex. 5, '828 Patent at 1:41-48 (referring to a "wireless communication system" and "user equipment (UE)" in the "Description of the Prior Art" section). Notably, courts have held that these types of computer components do not supply an inventive concept. *Mortgage Grader*, 811 F.3d at 1324-25 (holding that "a computer network" did not add an inventive concept); *CCE*, 2017 WL 2984074, at *4 (holding that a "user equipment" did not add an inventive concept). At most, these limitations merely limit the abstract idea to a particular technological environment.

The individual steps of Claim 15 cannot supply an inventive concept as they recite "well-understood, routine, [and] conventional activities." *Content Extraction, 776 F.3d at* 1347-48. Three of the five steps recite "sending" or "receiving" information—conventional computer functionality that is "not even arguably inventive." *buySAFE*, 765 F.3d at 1355; *see also Erie Indemnity*, 850 F.3d at 1329 ("[T]he remaining limitations recite routine computer functions, such as the sending and receiving [of] information.").[19] Claim 15's recitation of the information sent and received does not transform an otherwise abstract idea, particularly where the information recited is conventional. *Elec. Power*, 830 F.3d at 1355 (holding that a claim lacked an inventive concept where the claim "enumerat[ed] types of information and information sources available within the power-grid environment"); *see, e.g.*, Ex. 5, '828 Patent at 2:21-25 (describing "Prior Art" where a UE received TPC commands from the wireless network).[20]

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[19] "[S]ending . . . an indication of whether accumulation of transmit power control (TPC) commands is enabled" amounts to insignificant "[pre]-solution activity" that is insufficient to transform an abstract idea. *Mayo*, 566 U.S. at 79. That step merely informs a UE of which calculation to use.

[20] The intrinsic record also demonstrates that receiving an allocation of scheduled uplink resource,

The remaining two steps—the "determining" and "calculating" steps—also are routine, conventional activities. As to the "determining" step, "determining . . . path loss" was part of the "open loop" scheme "often employ[ed]" for transmit power calculations in existing wireless communication systems. Ex. 5, '828 Patent at 2:11-13 (referring to "determining the path loss"), 1:41-43 ("A wireless communication system often employ . . . an open loop scheme . . . to control uplink transmit power."). The "determining" step in Claim 15 is analogous to the "determining" step in *Mayo*, where the Supreme Court found a step reciting "determining the level of 6-thioguanine" as lacking an inventive concept because the step failed to specify how the determination was done. *Mayo*, 566 U.S. at 79 ("[T]he 'determining' step tells the doctor to determine the level of the relevant metabolites . . . through whatever process the doctor or the laboratory wishes to use."). As with *Mayo*'s "determining" step, Claim 15 functionally recites its "determining" step such that the path loss can be determined in any possible manner, precluding it from contributing an inventive concept. *See CCE*, 2017 WL 2984074, at *4 (stating that "steps like . . . determining do not provide inventive concepts in most circumstances."). As to the "calculating" step, calculating is a basic computer function, and the specification establishes that transmit power was conventionally calculated using TPC commands. Ex. 5, '828 Patent at 2:21-25 (describing calculating transmit power using TPC commands). Claim 15's addition of a conventional type of information—path loss—to that calculation does not add anything inventive to the claim. *Elec. Power*, 830 F.3d at 1355 (holding that claim lacked an inventive concept where claim "enumerat[ed] types of information and information sources available within the power-grid

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even on the same physical channel as the TPC command, was conventional. Ex. 6 at 4-7.

environment"). Indeed, the intrinsic record establishes that a calculation based on TPC commands and path loss was conventional. *See supra* at 21.

2. The Combination of Steps Does Not Add an Inventive Concept

Claim 15 recites "a conventional ordering of steps" using conventional computer technology. *Two-Way Media*, 874 F.3d at 1339. Where Claim 15 recites one of two ways to calculate transmit power, it is routine and conventional to first determine which of the two ways to use before performing the calculation. Otherwise, the incorrect calculation may be performed. And, it is also routine and conventional to determine the inputs to a calculation—"path loss" and "TPC commands" in Claim 15—before actually performing the calculation. Indeed, common sense dictates that a calculation cannot be done without inputs. Claim 15's ordered combination is therefore a conventional arrangement of known, conventional pieces.[21]

Accordingly, representative Claim 15 fails Step 2 of the *Alice* inquiry, because the claim elements recite conventional steps implemented on generic computer technology. The Court should dismiss IV's counts with respect to the '828 Patent because the claims in that patent fail to recite patent-eligible subject matter.

V. CONCLUSION

For these reasons, Plaintiffs' Counts I, II, IV, V, and VI as to the Carrier Defendants should be dismissed.

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[21] Since Claim 15 is representative of all claims in the patent, the dependent claims fall with Claim 15. *Elec. Power*, 830 F.3d at 1352 (holding all claims invalid based on a representative claim). In any event, the dependent claims do not supply an inventive concept, because they recite (1) a conventional environment in which the abstract idea is performed (Claims 17-18, 21), (2) a conventional implementation, insignificant pre-solution activity, and basic computer functionality (Claim 19), and (3) conventional information for use in a basic computer function (Claims 16 and 20). In short, none of the dependent claims include limitations that are distinctively significant enough to render the claims patent eligible.

Respectfully submitted,

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CERTIFICATE OF COMPLIANCE WITH THE COURT'S 35 U.S.C. § 101 MOTION PRACTICE ORDER

_____ The parties agree that prior claim construction is not needed to inform the Court's analysis as to patentability.

__X__ The parties disagree on whether prior claim construction is not needed to inform the Court's analysis as to patentability.

/s/ *Douglas M. Kubehl*

CERTIFICATE OF SERVICE

I hereby certify that counsel of record who are deemed to have consented to electronic service are being served this 7th day of December, 2017, with a copy of this document via the Court's CM/ECF system per Local Rule CV-5(a)(3).

/s/ Melissa R. Smith
Melissa R. Smith